

## CLAIMS

1. A method of fabricating an optical fiber by drawing a preform, the method including:
  - determining variations in the characteristics of the preform departing from its design characteristics, and
  - modifying the diameter of the fiber during drawing as a function of said variations to compensate the effect of said variations on the propagation characteristics of the fiber.
2. The method of claim 1, wherein the preform has a constant outside diameter and the determination step includes measuring the diameter of the core of the preform.
3. The method of claim 2, wherein the diameter of the fiber is modified so that the relative variation in said diameter is in the opposite direction to the relative variation in the diameter of the core of the preform.
4. The method of claim 1, wherein said characteristics are geometrical characteristics such as the diameter of the preform, the radii of the layers of the preform or the diameter of the core of the preform.
5. The method of claim 1, wherein said characteristics are optical characteristics such as the indices of the various layers of the preform.
6. The method of claim 1, wherein the modifications to the diameter of the fiber are less than a predetermined limit value.
7. The method of claim 6, wherein the modifications to the diameter of the fiber are less than 2  $\mu\text{m}$ .

8. The method of claim 1, wherein the modifications to the diameter of the fiber are less than  $\pm 2\%$  of the nominal diameter of the fiber.

9. An optical fiber obtained by the method of claim 1.

10. The method of claim 1, wherein the modifications to the diameter of the fiber are less than  $\pm 2\%$  of the nominal diameter of the fiber.